

What is claimed is:

- 1 1. A connector assembly, comprising:
 - 2 a connector;
 - 3 a cable attachable at one end to the connector, the cable including:
 - 4 a first conductive layer,
 - 5 a second conductive layer disposed over the first conductive
 - 6 layer, and
 - 7 a layer of insulation material disposed at least between the first
 - 8 conductive layer and the second conductive layer; and
 - 9 a plurality of capacitors connected between the first conductive layer and
 - 10 the second conductive layer.
- 1 2. The connector assembly of claim 1, wherein the first conductive layer and the
2 layer of insulation material are formed in a predetermined pattern.
- 1 3. The connector assembly of claim 1, wherein the cable is flexible.
- 1 4. The connector assembly of claim 1, wherein the layer of insulation material is a
2 coating of mylar material substantially completely covering the first and second
3 conductive layers.
- 1 5. The connector assembly of claim 1, wherein the capacitors are located to
2 minimize voltage droop between the capacitors and an IC when the connector is
3 attached to the IC.
- 1 6. The connector assembly of claim 1, wherein a quantity of the plurality of
2 capacitors and a size of each of the plurality of capacitors are selected to provide
3 a predetermined reduction in equivalent series resistance.

1 7. A system for testing an integrated circuit, comprising:
2 a chassis for holding the integrated circuit;
3 a connector to connect a power supply to the integrated circuit;
4 a cable attachable at one end to the connector, the cable including:
5 a first conductive layer,
6 a second conductive layer disposed over the first conductive
7 layer, and
8 a layer of insulation material disposed at least between the first
9 conductive layer and the second conductive layer; and
10 a plurality of capacitors connected between the first conductive layer and
11 the second conductive layer.

1 8. The system of claim 7, wherein the cable is flexible.

1 9. The system of claim 8, further comprising a floating and self-aligning
2 suspension system to which the connector is attached.

1 10. The system of claim 9, wherein the floating and self-aligning suspension system
2 comprises:
3 an outer frame;
4 an inner frame disposed within the outer frame, the connector being
5 mounted to the inner frame; and
6 a biasing mechanism attached to the inner frame.

1 11. The system of claim 7, wherein a quantity of the plurality of capacitors and a
2 size of each of the plurality of capacitors are selected to provide a predetermined
3 reduction in equivalent series resistance, voltage droop and settling time.

1 12. The system assembly of claim 7, wherein the first conductive layer and the layer
2 of insulation material are formed in a predetermined pattern.

1 13. The system in claim 7, wherein the capacitors are located to minimize voltage
2 droop between the capacitors and the IC when the connector is attached to the
3 IC.

1 14. A electronic system, comprising:
2 at least one integrated circuit;
3 a connector to connect the integrated circuit to a power supply;
4 a cable attachable at one end to the connector, the cable including:
5 a first conductive layer,
6 a second conductive layer disposed over the first conductive
7 layer, and
8 a layer of insulation material disposed at least between the first
9 conductive layer and the second conductive layer; and
10 a plurality of capacitors connected between the first conductive layer and
11 the second conductive layer.

1 15. The system of claim 14, wherein the first conductive layer, the second
2 conductive layer and the layer of insulation material are flexible.

1 16. The system of claim 14, wherein the first conductive layer and the layer of
2 insulation material are formed in a predetermined pattern for connection of each
3 of the plurality of capacitors in parallel between the first conductive layer and
4 the second conductive layer.

1 17. The system of claim 14, wherein a quantity of the plurality of capacitors and a
2 size of each of the plurality of capacitors are selected to provide a predetermined
3 reduction in equivalent series resistance, voltage droop and settling time.

1 18. The system in claim 14, wherein the capacitors are located to minimize voltage
2 droop between the capacitors and an IC when the connector is attached to the IC.

1 19. A method of making a connector assembly, comprising:
2 disposing a first conductive layer over a second conductive layer to
3 define a cable, wherein the first conductive layer is insulated from the second
4 conductive layer;
5 connecting the first conductive layer to a terminal of a connector plug;
6 connecting the second conductive layer to another terminal of the
7 connector plug; and
8 connecting a plurality of capacitors between the first and second
9 conductive layers.

1 20. The method of claim 19, wherein connecting the plurality of capacitors
2 comprises:
3 removing a portion of the insulation material from the first conductive
4 layer according to a predetermined pattern to expose at least a portion of the first
5 conductive layer;
6 forming openings through the first conductive layer according to another
7 predetermined pattern;
8 removing a portion of the insulation material covering the second
9 conductive layer according to the other predetermined pattern to expose at least a
10 portion of the second conductive layer through the opening in the first conductive layer
11 and insulation material;
12 connecting one terminal of each capacitor to the exposed first conductive
13 layer; and
14 connecting another terminal of each capacitor to the exposed second
15 conductive layer.

1 21. The method of claim 19, wherein the first conductive layer, the second
2 conductive layer and the layer of insulation material are flexible.

- 1 22. The method of claim 19, further comprising coating the first and second
- 2 conductive layers with mylar.

- 1 23. The method of claim 19, further comprising selecting a quantity of the plurality
- 2 of capacitors and a size of each of the plurality of capacitors to provide a
- 3 predetermined reduction in equivalent series resistance, voltage droop and
- 4 settling time.

- 1 24. A method of making a testing system for an integrated circuit, comprising:
 - 2 forming a chassis for holding the integrated circuit; and
 - 3 forming a connector assembly for attaching a power supply to the
 - 4 integrated circuit, wherein forming the connector assembly includes:
 - 5 disposing a first conductive layer over a second conductive layer
 - 6 to define a cable, wherein the first conductive layer is insulated from the second
 - 7 conductive layer,
 - 8 connecting the first conductive layer to a terminal of a connector
 - 9 plug,
 - 10 connecting the second conductive layer to another terminal of the
 - 11 connector plug, and
 - 12 connecting a plurality of capacitors between the first and second
 - 13 conductive layers.

- 1 25. The method of claim 24, wherein connecting the plurality of capacitors
- 2 comprises:
 - 3 removing a portion of the insulation material from the first conductive
 - 4 layer according to a predetermined pattern to expose at least a portion of the first
 - 5 conductive layer;
 - 6 forming openings through the first conductive layer according to another
 - 7 predetermined pattern;

- 1 26. The method of claim 24, further comprising:
 - 2 forming a floating and self-aligning suspension system; and
 - 3 attaching the connector assembly to the floating and self-aligning
 - 4 suspension system.
- 1 27. The method of claim 24, wherein forming the floating and self-aligning
- 2 suspension system comprises:
 - 3 forming an inner frame;
 - 4 attaching a biasing arrangement to the inner frame;
 - 5 mounting the connector to the inner frame;
 - 6 forming an outer frame to mount on the chassis; and
 - 7 disposing the inner frame within the outer frame, wherein the biasing
 - 8 arrangement permits the inner frame to move relative to the outer frame to allow the
 - 9 connector to self-align and attach to a mating connector on the integrated circuit.

1 28. The method of claim 24, wherein the first conductive layer, the second
2 conductive layer and the layer of insulation material are flexible.

1 29. The method of claim 24, further comprising selecting a quantity of the plurality
2 of capacitors and a size of each of the plurality of capacitors to provide a

3 predetermined reduction in equivalent series resistance, voltage droop and
4 settling time.